

What is claimed is:

1. A system for automating an electronic-commerce transaction using a virtual shopping cart initiated at a host site, comprising:

a user profile database that stores data structures necessary to manage a plurality of users' accounts;

a merchant schema database that contains information about schemas used by a plurality of heterogeneous merchants' sites;

a shopping cart manager that creates the virtual shopping cart based on a user's search query, and that monitors the content of the virtual shopping cart; and

a comparison shopping engine that collects and manages information across multiple independent transaction sessions from the plurality of heterogeneous merchants' sites, based on the user's search query, and that returns a corresponding comparative search result, without requiring the user to leave the host site to visit the plurality of heterogeneous merchants' sites.

2. The system of claim 1, further including a shopping coordinator that executes a desired shopping request for at least one item in the virtual shopping cart.

3. The system of claim 2, further including a protocol broker module that communicates with at least one of the plurality of heterogeneous merchants' sites using at least one of the schemas in the merchant schema database.

4. The system of claim 3, further including a user profile manager that maintains the user profile database and the merchant schema database.

5. The system of claim 4, further including a shopping cart database that stores a plurality of data structures necessary to manage a plurality of shopping carts and items contained in the plurality of shopping carts.

6. The system of claim 5, wherein the merchant schema database contains information about the plurality of merchants, their communication protocols, and how any one or more of the following functions are implemented for each merchant:

- add function, that adds an item to the virtual shopping cart;
- checkout function, that guides the shopper through a check out process;
- account retrieval feature, that provides account information;
- confirm order feature, that confirms a shopper's order;
- order confirmation feature, that receives order confirmation data.

7. The system of claim 5, wherein the protocol broker parses and analyzes the shopping request related to an item in the virtual shopping cart, to retrieve a corresponding merchant protocol from the merchant schema database.

8. The system of claim 7, wherein the corresponding merchant protocol is HTTP, and information related to the item in the virtual shopping cart is encoded, at least in part, in HTML.

9. A shopping agent site for automating an electronic-commerce transaction using a virtual shopping cart initiated at a host site, comprising:

a user profile database that stores data structures necessary to manage a plurality of users' accounts;

a merchant schema database that contains information about schemas used by a plurality of heterogeneous merchants' sites;

a shopping cart manager that creates the virtual shopping cart based on a user's search query, and that monitors the content of the virtual shopping cart; and

a comparison shopping engine that collects and manages information across multiple independent transaction sessions from the plurality of heterogeneous merchants' sites, based on the user's search query, and that returns a corresponding comparative search result, without requiring the user to leave the host site to visit the plurality of heterogeneous merchants' sites.

10. The shopping agent site of claim 9, further including:

a shopping coordinator that executes a desired shopping request for at least one item in the virtual shopping cart; and

a protocol broker module that communicates with at least one of the plurality of heterogeneous merchants' sites using at least one of the schemas in the merchant schema database.

11. A method of automating an electronic-commerce transaction using a virtual shopping cart initiated at a host site, comprising:

storing a plurality of data structures necessary to manage a plurality of users' accounts;

storing information about a plurality of schemas used by a plurality of heterogeneous merchants' sites;

creating the virtual shopping cart based on a user's search query;

monitoring the content of the virtual shopping cart; and

collecting and managing information across multiple independent transaction sessions from the plurality of heterogeneous merchants' sites, based on the user's search query, and returning a corresponding comparative search result, without requiring the user to leave the host site to visit the plurality of heterogeneous merchants' sites.

12. The method of claim 11, further including executing a desired shopping request for at least one item in the virtual shopping cart.

13. The method of claim 12, further including communicating with at least one of the plurality of heterogeneous merchants' sites using at least one of the schemas in the merchant schema database.

14. The method of claim 13, further including maintaining the plurality of data structures necessary and the plurality of schemas.

15. The method of claim 14, further including storing a plurality of data structures necessary to manage a plurality of shopping carts and items contained in the plurality of shopping carts.

16. The method of claim 15, wherein storing information about the plurality of schemas includes storing information about the plurality of merchants, their communication protocols, and how any one or more of the following functions are implemented for each merchant:

- add function, that adds an item to the virtual shopping cart;
- checkout function, that guides the shopper through a check out process;
- account retrieval feature, that provides account information;

- confirm order feature, that confirms a shopper's order;
- order confirmation feature, that receives order confirmation data.

17. The method of claim 15, wherein collecting and managing information includes parsing and analyzing the shopping request related to an item in the virtual shopping cart, to retrieve a corresponding merchant protocol.

18. A computer program product for automating an electronic-commerce transaction using a virtual shopping cart initiated at a host site, comprising:

a user profile database that stores data structures necessary to manage a plurality of users' accounts;

a merchant schema database that contains information about schemas used by a plurality of heterogeneous merchants' sites;

a shopping cart manager that creates the virtual shopping cart based on a user's search query, and that monitors the content of the virtual shopping cart; and

a comparison shopping engine that collects and manages information across multiple independent transaction sessions from the plurality of heterogeneous merchants' sites, based on the user's search query, and that returns a corresponding comparative search result, without requiring the user to leave the host site to visit the plurality of heterogeneous merchants' sites.

19. The computer product of claim 18, further including a shopping coordinator that executes a desired shopping request for at least one item in the virtual shopping cart.

20. The computer program product of claim 19, further including a protocol broker module that communicates with at least one of the plurality of heterogeneous merchants' sites using at least one of the schemas in the merchant schema database.

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